Figure 13. Five ton weight limit "restricted" bridge over Camas Creek.

Environmental Effects

Weed Establishment

Mowing, disking, or other surface disturbance used to or resulting from the construction of fuel breaks could result in the additional spread of noxious weeds and/or invasive annual weeds or exotic grasses. Therefore; the following weed mitigation is recommended.

Confirmed sightings of the following noxious weeds have been identified in Camas County (Prather et al. 2002): Canada thistle (*Cirsium arvense*), diffuse knapweed (*Centaurea diffusa*), leafy spurge (*Euphorbia esula*), musk thistle (*Carduus nutans*) and spotted knapweed (*Centaurea maculosa*). Some species, such as halogeton (*Halogeton glomeratis*), and downy brome (cheatgrass) (*Bromus tectorum*), are not listed as noxious but do impact the environment. Cheatgrass has increased the extent and frequency of wildland fires in the Great Basin and Upper Columbia River Basin with significant impacts in natural and fiscal resources (Billings 1994).

Before Construction of Fuel Breaks, Mowing, Disking or Other Land Disturbance

Survey and map invasive and noxious weeds occurring on site scheduled for construction.

- Determine infestation size and control weeds with appropriate methods (Table XX). Use a State-certified pesticide applicator for specific recommendations and chemical treatment.
- Train equipment operator on weed issues prior to start date. This training should

include:
    - Consequences of disturbance.
    - Reasons for and methods of prevention including cleaning equipment.
    - Identification of problem plants in the immediate area.
    - What to do when an invasive or noxious weed is sighted.
- Decontaminate vehicles and equipment entering construction site to remove weed seeds and other propagules.
    - Inspect equipment before entering project area.
    - Wash equipment (if possible) to remove all plant parts including seeds and root.
    - Prevent equipment from leaving site until inspections have been preformed.
- Minimize soil disturbance.

During Construction of Fuel Breaks, Mowing, Disking or Other Land Disturbance

- Control all infestations on construction site (Table XX).
    - Consult State-certified pesticide applicator.
- Minimize and control vehicular traffic entering and exiting construction site, especially those within the decontamination boundaries.
    - Decontaminate vehicles, equipment, and personnel.
        - Wash (if possible) equipment to remove all plant parts.
        - Inspect vehicles, equipment, and clothing.
- Take precautions to prevent the spread of weeds.
    - Avoid entering areas infested with weeds.
- Minimize soil disturbance.
    - Restrict vehicles to specified pathways.
- Conduct surveys of project area every two weeks during the growing season (April - October) to confirm weed free status or identify new weed infestations.

After Construction of Fuel Breaks, Mowing, Disking or Other Land Disturbance

- Decontaminate all outgoing equipment before permitting them to leave.
- Survey all disturbed areas, adjacent areas, and destination areas for noxious weeds.
    - Map infestations, critical sites, and sensitive areas.
    - Treat weeds with appropriate method in a timely fashion (Table 19).
        - Use a State-certified pesticide applicator for specific recommendations.
- Establish native perennial vegetation in all disturbed areas and monitor for emergence of non-native species.
- Continue to monitor construction site and treat infestations until weeds no longer appear or are controlled equal to or better than before the commencement of the project.

Document all monitoring and treatment of noxious weeds.

Soil Erosion

To prevent soil erosion and establish permanent vegetation that is fire resistant Greenstripping is recommended. Greenstripping, or establishing strips of fire-resistant vegetation to reduce the spread of wildfire, is an established practice on BLM lands in Idaho (Pellant 1992). Greenstripping reduces wildfire spread by disrupting fuel continuity, reducing fuel accumulations and volatility and increasing the density of plants with higher moisture content. The reduction of the overall fuel load reduces the flame lengths and heat intensity produced on the green strips, but the increase in annual species composition and fine fuels produces increased rates of spread. Therefore, the following characteristics are important when selecting species for greenstripping on semiarid rangelands such as Camas County: 1) adaptability to the range sites, 2) competitiveness with annual weeds, 3) ease of establishment, 4) low flammability, 5) open canopy and spacing, 6) palatability by livestock and wildlife (for efficient removal and control of litter and fine fuel buildup), and 7) resilience and re-growth capabilities.

Construction of Dry Hydrants

Environmental Effects to be considered:

- Potential impact to riparian landowner.
  - How much water is needed?
  - Where is the available water and is there a land use agreement needed/required between the landowner and the Fire department?
  - Is a permit for a dry hydrant required by the state or a federal agency? If so, can the application for the permit be obtained at the county level?
  - Does the hydrant location require certain water depth, composition of streambed or lake bottom, ease of digging, protection of hydrant during winter?
  - Does this location pose a threat to terrestrial or aquatic wildlife species?
  - Will the location survive winter temperatures?

The National Interagency Fire Center (NIFC, 2004) discusses the process of planning to insure adequate water supplies and distribution in the fire department. This booklet covers the design features and installation of dry hydrants.

Restoration Guidelines Following a Wildland Fire

Areas that generally burn hot are likely to have the greatest alterations in soil characteristics to the landscape (Graham 2003). These alterations include but are not limited to: (1) loss of surface soil organic matter, (2) reduced ground cover resulting in decreased infiltration of water and increased surface runoff and peak flows, and (3) the formation of pedestals, rills, and gullies.

The NFP and the Idaho Plan address rehabilitation and restoration of burned areas and fire-adapted ecosystems. Consider the following site restoration guidelines:

- Fill in deep and wide fire containment lines

- Waterbar newly created roads or containment lines, as necessary, to prevent erosion
- Install sediment controls to prevent sedimentation of waterways
- Restore all fire staging areas with native seed mixes approved by BLM, NRCS, or other local experts
- Control all noxious weed invasions
- Evaluate the necessity to revegetate all or portions of the burn or areas impacted by fire suppression activities using native species by broadcast seeding, drilling, containerized stock or wildlings
- Encourage the use of plant stock from local collections of site-adapted stock
- Base decision to revegetate an area on inventories of affected areas for natural recovery that approaches pre-fire densities of native species
- Preclude off-road vehicle use in burned area for at least two growing seasons
- Continue monitoring until restoration is complete
- Conduct surveys of burned areas to assess damage to cultural resources.

Fire Prevention Programs – Public Education

Wildland Fire Education

The Fairfield Ranger District (personal communication – SNF) will begin implementation of a program called Redzone in the Camas County area of the Sawtooth National Forest during the summer of 2004. Redzone is a software program that incorporates digital photos, GPS locations, and Survivable Space surveys of homes into one easy to view document. The District fire prevention technician will be conducting a specialized survey of homes within the wildland urban interface area of Camas County. The survey will identify potential hazards the home may pose to firefighters that are trying to protect it from a wildland fire and it will suggest mitigation measures that can be taken by the home owner to reduce the risk of their home igniting in case of a wildfire in their area. The surveys will also contain information for firefighters to use in case of a wildland fire such as: water sources, access concerns (bridges/road width), and utility location information. The surveys will then be mailed to the homeowner for his review. We will also be including Firewise documents when we mail the survey that will aid the homeowner in creating Survivable Space around his home.

FIREWISE – A Community-wide Outreach Program

The National Wildfire Coordinating Group (NWCG) sponsors the FIREWISE Program. Members of the NWCG are responsible for wildland fire management in the United States and are represented by the USDA-Forest Service, the Department of Interior, the National Association of State Foresters, the U.S. Fire Administration and the National Fire Protection Association. FIREWISE promotes fire wise practices by 1) educating the public of the dangers of a wildfire in the area, 2) encouraging residents to take responsibility in reducing the risk of a wildfire and to create Survivable Space around